NC Math 3

Changed* or Added Concepts/Skills

- **Rewrite exponential expressions** (NC.M3.A-SSE.3c, *from Math II*)
- **Extend the concept of a function to include angle measures** (NC.M3.F-IF.1, *new*)
- **Use <u>sine</u> to represent periodic phenomena** (NC.M3.F-TF.5, *formally sine, cosine and tangent*)
- **Properties of the centers of triangles** (NC.M3.G-CO.10, *new*)
- **Use volume to solve problems** (NC.M3.G-GMD.3, *from Math I*)
- **Cross-sections of three dimensional objects** (NC.M3.G-GMD.4, *from Math II*)
- **Modeling with Geometry** (NC.M3.G-MG.1, *from Math II*)

Removed Concepts/Skills from Course Standards

- **Unit analysis, scale, level of accuracy** (N-Q.1, 2, and 3 - *Incorporated into the Standards for Mathematical Practice*)
- **Geometric Definitions** (G.CO.1 - *Incorporated into the associated standards*)
- **Geometric Constructions** (G.CO.12, G.C.3 – *Incorporated into Instructional Documents*)
- **Rational and irrational numbers** (*to NC Math 2*, NC.M2.N-RN.3)
- **Defining a complex number** (*to NC Math 2,* NC.M2.N-CN.1)
- **Operations with complex numbers** (N-CN.2 *to a fourth level math*)
- **Completing the square** (*to NC Math 2,* NC.M2.A-SSE.3, NC.M2.A-REI.4a, NC.M2.A-REI.4b, and NC.M2.F-IF.8a)
- **Derive the formula for the sum of a finite geometric series** (A-SSE.4 *to a fourth level math*)
- **Prove polynomial identities** (A-APR.4 *to a fourth level math*)
- **Solving for a variable in formulas** (*Fully in NC Math 1*, NC.M1.A-CED.4)
- **Understanding the relationship between the graph of an equation and the solutions** (*Fully in NC Math 1*, NC.M1.A-REI.10)
- **Write arithmetic and geometric sequences recursively and with an explicit formula** (*to NC Math 1,* NC.M2.F-BF.2)
- **Prove the Pythagorean identity** (F-TF.8 *to a fourth level math*)
- **Prove theorems about lines and angles** (*to NC Math 2,* NC.M2.G-CO.9)
- **Prove theorems about triangles** (*Fully in NC Math 2*, NC.M2.G-CO.10)
- **Similarity through transformations** (*to NC Math 2*, NC.M2.G-SRT.2, NC.M2.G-SRT.3, NC.M2.G-SRT.4, and NC.M2.G-SRT.5)
- **Derive the equation of a parabola** (G-GPE.2 *to a fourth level math*)
- **Find the point on segment partitions with a given ratio** (G-GPE.6 *to a fourth level math*)
- **Normal distribution** (S-ID.4 *to a fourth level math*)
- **Fair decisions**
- (S-MD.6 *to a fourth level math*)
- **Analyzing decisions with probability** (S-MD.7 *to a fourth level math*)

Additional Concepts for Implementation Year

For the implementation year:

- **Rational and irrational numbers** (*to NC Math 2*, NC.M2.N-RN.3)
- **Defining a complex number** (*to NC Math 2,* NC.M2.N-CN.1)
- **Completing the square** (*to NC Math 2,* NC.M2.A-SSE.3, NC.M2.A-REI.4a, NC.M2.A-REI.4b, and NC.M2.F-IF.8a)
- **Prove theorems about lines and angles** (*to NC Math 2,* NC.M2.G-CO.9)
- **Prove theorems about triangles** (*Fully in NC Math 2*, NC.M2.G-CO.10)
- **Similarity through transformations** (*to NC Math 2*, NC.M2.G-SRT.2, NC.M2.G-SRT.3, NC.M2.G-SRT.4, and NC.M2.G-SRT.5)

**The changed concepts/skills are underlined.*